

Application No.: 09/807,254
Amendment dated February 5, 2004
Reply to Office Action of November 19, 2003

26. (original) The method of Claim 25 wherein said insects are selected from the group consisting of mites, ants, aphids, and termites.

27. (original) The method of Claim 26 wherein said insects are at least one species selected from the group consisting of *Tetranychus*.

28. (original) The method of Claim 27 wherein said insects are *Tetranychus cinnabarinus*.

29. (previously presented) The method of Claim 24 wherein said bacteria are at least one species selected from the group consisting of *Erwinia*, *Xanthomonas*, *Pseudomonas*, *Clavibacter*, and *Agrobacterium*.

30. (original) The method of Claim 29 wherein said bacteria are at least one species selected from the group consisting of *Agrobacterium tumefaciens*, *Clavibacter michiganensis*, *Erwinia amylovora*, *Erwinia carotovora*, *Pseudomonas syringae*, and *Xanthomonas axonopodis*.

31. (original) The method of Claim 30 wherein said fungi are at least one species selected from the group consisting of *Fusarium*, *Rhizoctonia*, *Sclerotinia*, and *Phytophthora*.

32. (original) The method of Claim 31 wherein said fungi are at least one species selected from the group consisting of *Fusarium moniliforme*, *Rhizoctonia solani*, *Sclerotinia sclerotium*, *Phytophthora capsici* and *Phytophthora fragaria*.

33. (previously presented) The method of Claim 24 wherein said essential oil or component thereof is derived from at least one essential oil producing plant species of a genera selected from the group consisting of *Thymbra*, *Satureja*, *Origanum*, *Corydothymus*, *Pinpinella* and *Foeniculum*.

Application No.: 09/807,254
Amendment dated February 5, 2004
Reply to Office Action of November 19, 2003

34. (previously presented) The method of Claim 24 wherein said essential oil producing plant species is selected from the group consisting of *Thymbra spicata* var. *spicata*, *Satureja thymbra*, *Origanum majorana*, *Corydothymus capitatus*, *Origanum vulgare*, *Origanum solymicum*, *Origanum spyleum*, *Origanum hilgeri*, *Origanum minutiflorum*, *Origanum saccatum*, *Origanum sriacum*, *Origanum onites*, *Origanum majorana*, *Pinpinella anisum*, and *Foeniculum vulgare*.

35. (previously presented) The method of Claim 24 wherein said essential oil producing plant species is selected from the group consisting of *Thymbra spicata* var. *spicata*, (L) Line Ant97- 364-48, *Satureja thymbra* (L) Line Ant98-28-103, *Pinpinella anisum* (L) Line Ant98-223-137, and *Foeniculum vulgare* (L) Line Ant98-89-62.

36. (previously presented) The method of Claim 24 wherein said essential oil or component thereof comprises at least one compound selected from the group consisting of *cis*-anethole, *trans*-anethole, anisaldehyde, anis ketone, anisole, β -bisabolene, borneol, bornyl acetate, cadinene, camphene, camphor, Δ -3-carene, Δ -4-carene, carophyllene, carvone, carvacrol, γ -caryophyllene, cinnamic aldehyde, citronellal, cineol, 1,8-cineole, *p*-cymene, *p*-cymene-8-ol, decanal, estragole, eugenol, eugenyl acetate, α -fenchene, fenchole, fenchone, geranial, geraniol, geranyl acetate, isoborneol, lavanduol, limonene, linalool, linalyl acetate, menthol, menthone, menthyl acetate, *cis*-*p*-menth-2-en-1-ol, *trans*-*p*-menth-2-en-1-ol, methoxy phenyl acetone, methyl chavicol, methyleugenol, methylinone, 2-methylpentan-3-one, myrcene, nerol, nonanal, *cis*- β -ocimene, *trans*- β -ocimene, octanal, 3-octanol, α -pinene, β -pinene, β -phelladrene, α -phelladrene, pulegone, sabinene, *cis*-sabinene hydrate, *trans*-sabinene hydrate, γ -terminene, terpenyl acetate, α -terpinene, γ -terpinene, terpinene-4-ol, α -terpineol, β -terpineol, terpinolene, 2,3,5,6-tetramethylphenol, α -thujene, thymil acetate, thymol and tricyclene.

37. (previously presented) The method of Claim 24 wherein said essential oil or component thereof is at least one compound selected from the group consisting of carvacrol, thymol, cymene and anethole.

Application No.: 09/807,254
Amendment dated February 5, 2004
Reply to Office Action of November 19, 2003

38. (previously presented) The method of Claim 24 wherein said component is anethole.

39. (previously presented) The method of Claim 24 wherein said component is *trans*-anethole.

Claims 40-41 (cancelled).

42. (previously presented) The method of claim 24 wherein said composition is applied by spraying.

Claim 43 (cancelled).

44. (previously presented) The method of Claim 24 wherein said composition is applied by fogging.

45. (previously presented) The method of Claim 24 wherein said composition is applied in irrigation water.

46. (previously presented) The method of Claim 24 wherein said composition further comprises a carrier, and said composition is applied in the soil around the plant.

47. (original) The method of Claim 46 wherein said carrier is selected from the group consisting of perlite, commercially available dust preparations, commercially available granule preparations and vermiculite.

48. (previously presented) The method of Claim 24 wherein said composition further comprises bacteria which degrades essential oils or components thereof.

Application No.: 09/807,254
Amendment dated February 5, 2004
Reply to Office Action of November 19, 2003

Claim 49 (cancelled).

50. (previously presented) A method of inhibiting fungal infections of plants comprising applying a composition comprising an oil-in-water emulsion comprising, in the oil phase, an essential oil or at least one active component thereof in an amount of from 1 to 1000 ppm of the emulsion to the plant, wherein said essential oil or active component thereof is from *Laurus nobilis*.

Claims 51-69 (cancelled).

70. (previously presented) A method of repelling or killing insects comprising applying a composition to an area, wherein said composition comprises an oil-in-water emulsion comprising, in the oil phase, as an active ingredient, an essential oil or at least one active component thereof in an amount of from 1 to 1000 ppm of the emulsion, said essential oil from at least one plant selected from the genera *Labiata* and *Umbellifera*.

71. (previously presented) The method of Claim 70 wherein said plant species is selected from the group consisting of *Thymbra spicata* var. *spicata*, *Satureja thymbra*, *Origanum majorana*, *Corydothymus capitatus*, *Origanum vulgare*, *Origanum solymicum*, *Origanum spyleum*, *Origanum bilgeri*, *Origanum minutiflorum*, *Origanum saccatum*, *Origanum sriacum*, *Origanum onites*, *Origanum majorana*, *Pinpinella anisum*, and *Foeniculum vulgare*.

72. (original) The method of Claim 70 wherein said plant species is selected from the group consisting of *Thymbra spicata* var. *spicata* (L) Line Ant97- 364-48, *Satureja thymbra* (L) Line Ant98-28-103, *Pinpinella anisum* (L) Line Ant98-223-137, and *Foeniculum vulgare* (L) Line Ant98-89-62.

73. (original) The method of Claim 70 wherein said component of said essential oil is at least one compound selected from the group consisting of *cis*-anethole, *trans*-anethole, anisaldehyde, anis ketone, anisole, β -bisabolene, borneol, bornyl acetate, cadinene, camphene,

Application No.: 09/807,254

Amendment dated February 5, 2004

Reply to Office Action of November 19, 2003

camphor, Δ -3-carene, Δ -4-carene, carophyllene, carvone, carvacrol, γ -caryophyllene, cinnamic aldehyde, citronellal, cineol, 1,8-cineole, p-cymene, p-cymene-8-ol, decanal, estragole, eugenol, eugenyl acetate, α -fenchene, fenchole, fenchone, geranial, geraniol, geranyl acetate, isoborneol, lavanduol, limonene, linalool, linalyl acetate, menthol, menthone, menthyl acetate, *cis*-p-menth-2-en-1-ol, *trans*-p-menth-2-en-1-ol, methoxy phenyl acetone, methyl chavicol, methyleugenol, methylinone, 2-methylpentan-3-one, myrcene, nerol, nonanal, *cis*- β -ocimene, *trans*- β -ocimene, octanal, 3-octanal, α -pinene, β -pinene, β -phelladrene, α -phelladrene, pulegone, sabinene, *cis*-sabinene hydrate, *trans*-sabinene hydrate, γ -terminene, terpenyl acetate, α -terpinene, γ -terpinene, terpinene-4-ol, α -terpineol, β -terpineol, terpinolene, 2,3,5,6-tetramethylphenol, α -thujene, thymil acetate, thymol, and tricyclene.

74. (original) The method of Claim 70 wherein said active ingredient is at least one compound selected from the group consisting of carvacrol, thymol, cymene and anethole.

75. (original) The method of Claim 70 wherein said active ingredient is anethole.

76. (original) The method of Claim 70 wherein said active ingredient is *trans*-anethole.

Claim 77 (cancelled).

78. (original) The method of Claim 70 wherein said active ingredient is combined with at least one inactive oil, wherein said composition is formulated as a fogging vapor.

79. (original) The method of Claim 70 wherein said composition further comprises a carrier.

80. (original) The method of Claim 79 wherein said carrier is selected from the group consisting of perlite, commercially available dust preparations, commercially available granule preparations, and vermiculite.

Application No.: 09/807,254
Amendment dated February 5, 2004
Reply to Office Action of November 19, 2003

81. (original) The method of Claim 70 wherein said composition is formulated as a cream.

82. (original) The method of Claim 70 wherein said composition is formulated as a powder.

83. (original) The method of Claim 70 wherein said composition is formulated in paraffin.

84. (original) The method of Claim 70 wherein said composition is formulated in paint.

85. (original) The method of Claim 84 wherein said paint is an oil-based paint.

86. (original) The method of Claim 70 wherein said insects are at least one selected from the group consisting of flies, mosquitoes, aphids, fleas, ticks, spiders, cockroaches, ants, termites, and mites.

Claims 87-88 (cancelled).

89. (previously presented) A composition to repel or kill insects, fungi, nematodes and bacteria, comprising, an oil-in-water emulsion comprising, in the oil phase, as an active ingredient, an essential oil or a component thereof in an amount of from 1 to 1000 ppm of the emulsion, wherein said essential oil or component thereof is derived from at least one plant species in the Family *Labiatae* and *Umbellifera*, wherein said composition further comprises at least one other pesticide.

90. (previously presented) A fungicide composition comprising an oil-in-water emulsion comprising, in the oil phase, an essential oil, or at least one component thereof from

Application No.: 09/807,254
Amendment dated February 5, 2004
Reply to Office Action of November 19, 2003

Laurus nobilis in an amount of from 1 to 1000 ppm of the emulsion wherein said composition further comprises at least one other fungicide.

91. (original) The method of Claim 24 wherein said composition further comprises at least one other pesticide.

Claim 92 (cancelled).

93. (original) The method of Claim 50 wherein said composition further comprises at least one other fungicide.

Claims 94-95 (cancelled).

96. (original) The method of Claim 70 wherein said composition further comprises at least one other pesticide.

97. (original) The method of Claim 24 wherein said essential oil is in an emulsion in water.

98. (original) The method of Claim 97 wherein said oil is present in an amount of greater than 10 ppm.

99. (original) The method of Claim 97 wherein said oil is present is an amount of greater than 25 ppm.

Claims 100-113 (cancelled).

114. (previously presented) A composition to repel or kill insects, fungi, nematodes and bacteria, comprising, an oil-in-water emulsion comprising, in the oil phase, as an active ingredient, an essential oil or a component thereof in an amount of from 1 to 1000 ppm of

Application No.: 09/807,254
Amendment dated February 5, 2004
Reply to Office Action of November 19, 2003

the emulsion, wherein said essential oil or component thereof is derived from at least one plant species in the Family *Labiatae* and *Umbellifera* wherein said composition further comprises an emulsifying agent which is an oil.

Claims 115-116 (cancelled).

117. (original) The method of Claim 24 wherein said emulsion further comprises a vegetable oil.

Claim 118-121 (cancelled).

122. (currently amended) A composition to repel or kill insects, fungi, nematodes and bacteria, comprising an oil-in-water emulsion adapted to kill insects, fungi, nematodes and bacteria comprising, in the oil phase, as an active ingredient, an essential oil or a component thereof in an amount of from 1 to 1000 ppm of the emulsion, wherein said essential oil or component thereof comprises at least one compound selected from the group consisting of *cis*-anethole, *trans*-anethole, anisaldehyde, anisole, camphene, camphor, carvone, carvacrol, cinnamic aldehyde, citronellal, cineol, 1,8-cineole, *p*-cymene-8-ol, decanal, geranial, geraniol, geranyl acetate, isoborneol, lavanduol, limonene, linalool, linalyl acetate, menthol, menthone, methyl chavicol, methyleugenol, methylinone, nonanal, α -pinene, β -pinene, β -phelladrene, α -phelladrene, pulegone, terpenyl acetate, α -terpinene, γ -terpinene, terpinene-4-ol, thymil acetate and thymol, in combination with ~~The composition of Claim 5 further comprising a bacterium which degrades essential oils or components thereof.~~